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EXAMINER

O CONNOR, CARY E

ART UNIT PAPER NUMBER

3732

DATE MAILED: 02/25/2004

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,676

Applicant(s)

WIECHMANN ET AL.

Examiner

Cary E. O'Connor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 22-28, 45-50 and 73-78 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36-44 and 51-72 is/are allowed.
- 6) ☒ Claim(s) 1-21 and 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-6, 12-16.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-21, 29-44, and 51-72 in Paper No. 18 is acknowledged.

Claims 22-28, 45-50 and 73-78 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 18.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 7, 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Akin (6,382,966). Akin shows a set of orthodontic brackets B, each bracket having a bonding pad 50 and a slot 54 for receiving an archwire 58 of rectangular cross section,

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wherein the slots of each of the brackets are oriented in approximate parallel alignment relative to its respective bonding pad so that when the brackets are installed the archwire is canted relative to the occlusal plane such that the long side of the archwire is in approximate parallel alignment to the surface of the teeth at the location of where the archwire is inserted into the slot (see Fig. 3). As to claim 3, note that each bonding pad has a three-dimensional tooth-facing surface shaped to conform to the three-dimensional surface of the tooth (see Figs. 7 and 8). As to claim 7, note that set includes all the brackets for treatment (Fig. 1). As to claim 10, note that the set includes subsets of brackets for the upper and lower arches (Fig. 1). As to claims 11-13, the method by which the brackets are made is not given weight in an apparatus claim.

Claims 16-19, 29, 30, 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita (4,575,337). Fujita shows an orthodontic bracket 1 comprising a bonding pad 6 and an archwire slot 5 wherein the bonding pad comprises a three-dimensional tooth-facing surface conforming to the shape of the tooth and an opposing surface also conforming to the shape of the tooth and wherein the slot is oriented approximately parallel to the bonding pad (see Fig. 18 and column 3, lines 27-30). As to claims 17, 19 and 32, note that the bracket may comprise a lingual bracket (Fig. 3) or a labial bracket (Fig. 1). As to claims 18 and 34, note that the brackets are a set of brackets (Fig. 1).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akin (6,382,966). Akin shows the set comprising all brackets for the treatment of the patient. It is held that it would have been obvious to one of ordinary skill in the art to use a set comprising less than all the brackets for the treatment, depending on the treatment plan for the patient, particularly for a young patient who's teeth have not all erupted at the time of treatment.

Claims 4, 6, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akin (6,382,966) in view of Faunce (3,936,939). Akin does not disclose that the bonding pad covers at least 50 percent of the lingual tooth surface. Faunce shows an orthodontic bracket having a bonding pad 26 that covers at least 50 percent of the tooth surface and may cover an edge of the tooth (col. 8, lines 6-10). The bracket may also be attached to the lingual surface of the tooth (column 11, lines 57-63). This provides optimal structural interrelation between the tooth structure and the bonding pad to transmit forces to the tooth structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to extend the bonding pad

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of Akin to cover at least 50 percent of the tooth surface and the cusp of the tooth, in view of Faunce, in order to effectively transmit forces from the bracket body to the tooth. It would have also been obvious to form the brackets to be applied to the lingual surface of the tooth, in view of Faunce, to hide the brackets from view. As to claim 14, the bonding pad of Faunce varies in thickness such that it is thinner at the edges than in the center so that the edges blend smoothly into the tooth surfaces. It would have been obvious to one of ordinary skill in the art to make the edges of the bonding pad of Akin thinner than the center, in view of Faunce, to reduce sharp edges that could cause irritation. As to claim 15, Faunce teaches that the bonding pad should be thin but does not disclose the exact thickness. It would have been obvious to make the bonding pad of Akin thin, in view of Faunce, because it may be readily moldable to the surface of the tooth to provide a better bond between the tooth and the pad. Without a showing of criticality, the exact thickness is held to be an obvious design choice, to one of ordinary skill in the art.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akin (6,382,966) and Fujita (4,575,337). Akin does not disclose that the opposite surface of the bonding pad has a three-dimensional shape corresponding to the three-dimensional tooth facing surface. Fujita shows an orthodontic bracket 1 comprising a bonding pad 6 and an archwire slot 5 wherein the bonding pad comprises a three-dimensional tooth-facing surface conforming to the shape of the tooth and an opposing surface also conforming to the shape of the tooth. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the opposite surface of Akin to

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have a three-dimensional shape corresponding to the three-dimensional tooth facing surface, in view of Fujita, in order to reduce the overall thickness of the bracket.

Claims 20, 21, 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita (4,575,337) in view of Faunce (3,936,939). Fujita does not disclose that the bonding pad covers at least 50 percent of the lingual tooth surface. Faunce shows an orthodontic bracket having a bonding pad 26 that covers at least 50 percent of the tooth surface and may cover an edge of the tooth (col. 8, lines 6-10). The bracket may also be attached to the lingual surface of the tooth (column 11, lines 57-63). This provides optimal structural interrelation between the tooth structure and the bonding pad to transmit forces to the tooth structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to extend the bonding pad of Fujita to cover at least 50 percent of the tooth surface and the cusp of the tooth, in view of Faunce, in order to effectively transmit forces from the bracket body to the tooth.

Allowable Subject Matter

Claims 36-44, 51-72 are allowed.

The disclosure is objected to because of the following informalities: Reference numeral 54 refers to a surface (page 26, line 16) and a shell (page 26, line 17).

Appropriate correction is required.

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Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 78 (page 29, line 23). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 56 (Fig. 11). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 703-308-2701. The examiner can normally be reached on M-F 7:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on 703-308-2582. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



Cary E. O'Connor
Primary Examiner
Art Unit 3732

ceo
February 19, 2004